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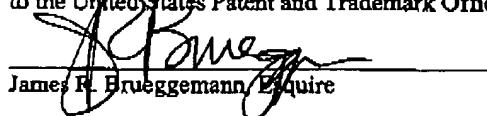
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to the United States Patent and Trademark Office on September 10, 2006.  
James R. Brueggemann, EsquireTransmittal of Appeal Brief (1 page)Appellants' Brief (16 pages)Applicants: Hyun Jin Kim et al.Title: GOLF BALLS INCORPORATING PEPTIZERS  
AND METHOD OF MANUFACTURESerial No: 10/662,619 Filed: September 15, 2003Examiner: Raeann Gordon Group Art Unit: 3711Confirmation No.: 9762Fees: \$500.00 authorized to be charged to Dep. Acct.Our Docket No.: 0EKM-104792 Date Faxed: 10/10/06Client: Taylor Made Date Due: 10/10/06Atty/Sec.: Agness/Rodriguez

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## TRANSMITTAL OF APPEAL BRIEF (Large Entity)

Docket No.  
0EKM-104792

In Re Application Of: HYUN JIN KIM, et al.

| Application No. | Filing Date        | Examiner      | Customer No. | Group Art Unit | Confirmation No. |
|-----------------|--------------------|---------------|--------------|----------------|------------------|
| 10/662,619      | September 15, 2003 | Raeann Gordon | 30764        | 3711           | 9762             |

Invention:

GOLF BALLS INCORPORATING PEPTIZERS AND METHOD OF MANUFACTURE

COMMISSIONER FOR PATENTS:

Transmitted herewith is the Appeal Brief in this application, with respect to the Notice of Appeal filed on:

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Dated: October 10, 2006

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application No.: 10/662,619 Confirmation No.: 9762  
 Applicant: Hyun Jin Kim et al.  
 Filed: September 15, 2003  
 Title: GOLF BALLS INCORPORATING PEPTIZERS  
       AND METHOD OF MANUFACTURE

Examiner: Raeann Gordon  
 Art Unit: 3711

Docket No.: 0EKM-104792  
 Date: October 10, 2006

**APPELLANTS' BRIEF**

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 Commissioner for Patents  
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Sir:

**(1) REAL PARTY IN INTEREST**

The real party in interest in this application is the only assignee, Taylor Made Golf Company, Inc.

**(2) RELATED APPEALS AND INTERFERENCES**

Appellants and Appellants' legal representatives know of no related appeals or interferences. Therefore, no appeal or interference known to Appellants or Appellants' legal representatives will directly affect, or be directly affected by, or have a bearing on the Board's decision in the pending appeal.

**(3) STATUS OF CLAIMS**

Claims 1-41, 48, 50-53, 55-57, 61, and 62 are pending in the application. Claims 1-41, 48, 51-53, 56-57, 61, and 62 have been finally rejected by the Examiner. Claims 50 and 55

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have been finally objected to by the Examiner. Claims 42-47, 49, 54, and 58-60 were canceled. Appellants have appealed the rejection or objection of claims 1-41, 48, 51-53, and 56-57.

**(4) STATUS OF AMENDMENTS**

Appellants filed an amendment after final rejection on June 6, 2006. Pursuant to the Advisory Action from the Examiner mailed June 22, 2006, the proposed amendments filed after final rejection were not entered because they allegedly raise new issues that would require further consideration and/or search.

**(5) SUMMARY OF CLAIMED SUBJECT MATTER**

**Independent Claim 1**

Independent claim 1 is directed to a golf ball incorporating a composition comprising an unsaturated polymer, a cross-linking agent comprising a peroxide, a peptizer including a non-metal salt of an organic sulfur compound; and an accelerator. Support for this claim is found in paragraphs [0020] and [0030] of the specification.

**Independent Claim 25**

Independent claim 25 is directed to a golf ball including a composition comprising an unsaturated polymer, a cross-linking agent comprising a peroxide, a peptizer including a non-metal salt of an organic sulfur compound, and an accelerator. Specifically, the composition includes from about 0.2 part to about 3 parts by weight of the cross-linking agent per 100 parts by weight of the unsaturated polymer, greater than about 0.5 part by weight of the peptizer per 100 parts by weight of the unsaturated polymer, and from about 0.2 part to about 5 parts by weight of the accelerator per 100 parts by weight of the unsaturated polymer. Support for this claim is found in paragraphs [0020], [0028], and [0030] of the specification.

**Independent Claim 41**

Independent claim 41 is directed to a method for manufacturing a golf ball, including the following steps: (1) providing an unsaturated polymer, a cross-linking agent comprising a peroxide, a peptizer including a non-metal salt of an organic sulfur compound, and

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an accelerator; (2) preparing a composition from the unsaturated polymer, the cross-linking agent, the peptizer, and the accelerator; and (3) forming the composition into the golf ball.

Support for this claim is found in paragraphs [0020], [0030], [0031], [0039], and [0040] of the specification.

**(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

- A. Whether claims 51-52 and 56-57 are unpatentable under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.
- B. Whether claims 1-41, 48, 51, 53, and 56 are unpatentable under 35 U.S.C. § 103(a) over U.S. Publication No. 2001/0031669 to Ohama (the "Ohama publication"), in view of U.S. Patent No. 6,561,926 to Hayashi et al. (the "Hayashi patent"), and further in view of U.S. Publication No. 2001/0000506 to Sullivan (the "Sullivan publication").

**(7) ARGUMENT**

**A. Rejection of Claims 51-52 and 56-57 under 35 U.S.C. § 112, First Paragraph**

On page 2 of the Final Office Action, claims 51-52 and 56-57 were rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement.

In making the rejection, the Examiner asserted as follows:

"Claims 51 and 56, the specification does not support 'mixtures thereof' for the peroxides/crosslinkers. Claims 52 and 57, the specification does not support a combination of peroxides."

(Office Action dated 2/10/06, page 2.)

Applicants disagree with the Examiner's assertions. Applicants note that the original disclosure does, in fact, disclose the use of *mixtures* of various peroxide cross-linking agents. For example, paragraph [0030] of the original disclosure expressly states as follows:

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"[0030] Suitable cross-linking agents for use in the golf balls of the present invention include any sulfur compounds, *peroxides*, or other known chemical cross-linking agents, *as well as mixtures of these*. Non-limiting examples of suitable cross-linking agents include. . ." (Italics added.)

For this reason, it should be clear that Applicants did, in fact, originally contemplate the use of *mixtures* of peroxide cross-linking agents. Moreover, the particular peroxide cross-linking agents recited in rejected claims 51-52 and 56-57 are, in fact, included in the listing set forth in paragraph [0030].

For these reasons, the §112 rejection of claims 51-52 and 56-57 is improper. Appellants respectfully urge the Board to reverse this rejection.

**B. Rejection of Claims 1-41, 48, 51, 53, and 56 under 35 U.S.C. § 103(a) over the Ohama publication, in view of the Hayashi patent and the Sullivan publication**

On pages 2-5 of the Final Office Action, claims 1-41, 48, 51, 53, and 56 were finally rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over the Ohama publication, in view of the Hayashi patent and, in the case of claims 23 and 39, further in view of the Sullivan publication.

In her comments supporting the rejection of independent claims 1, 25, and 41, the Examiner asserted that the Ohama publication discloses all of the features recited in these claims, including the use of pentachlorothiophenol (an organic sulfur compound) as a peptizer, but she acknowledged that the publication fails to disclose "specific types such as metal salts or nonmetal salts [thereof]." To make up for this deficiency, the Examiner further asserted that the Hayashi patent "teaches a golf ball comprising thiophenols and specifically teaches halogenated (nonmetal) thiophenols" and "metal thiophenols such as zinc salts of pentachlorothiophenols." Unstated in the Office Action, was the tacit implication that it would have been obvious to have used Hayashi's halogenated or metal thiophenols as the pentachlorothiophenol constituent in Ohama's composition.

Applicants respectfully disagree with the Examiner's assertion about the obviousness of using Hyashi's halogenated or metal thiophenol as the pentachlorothiophenol

constituent in Obama's composition, but note that even if that were done, the resulting composition would *not* correspond to the composition defined in independent claims 1, 25, and 41.

Independent claims 1, 25, and 41 call for a peptizer including "a non-metal salt of an organic sulfur compound." Hayashi's halogenated thiophenol is *not* such a non-metal salt. Marriam Webster's on-line dictionary (<http://m-w.com>) defines a salt as follows:

**salt:** 1.d. any of numerous compounds that result from replacement of part or all of the acid hydrogen of an acid by a metal or a group acting like a metal: an ionic crystalline compound.

Thus, a salt must contain both a positively charged component (i.e., a cation) and a negatively charged component (i.e., an anion). Hayashi's halogenated thiophenol is *not* an ionic compound and, thus, fails to meet this definition. In short, the Hayashi patent fails to disclose the required "non-metal salt."

For these reasons, the § 103(a) rejection of independent claims 1, 25, and 41 is improper and should be withdrawn. Appellant respectfully urge the Board to reverse this rejection.

Claims 2-24, 48, and 51-52 depend from independent claim 1; and claims 26-40, 53, and 56-57 depend from independent claim 25. These dependent claims all add features that more particularly define the invention and, thus, further distinguish over the Obama publication and the Hayashi patent. These dependent claims, likewise, should be allowed.

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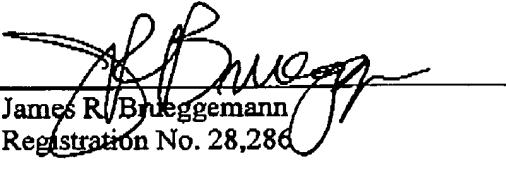
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C. Conclusion

For the reasons set forth above, the rejections of the claims are improper and should be reversed. A decision directing the Examiner to issue a Notice of Allowance is respectfully requested.

Respectfully submitted,

SHEPPARD, MULLIN, RICHTER & HAMPTON LLP

By: 

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Claim 1: A golf ball including a composition comprising:

- an unsaturated polymer;
- a cross-linking agent comprising a peroxide;
- a peptizer including a non-metal salt of an organic sulfur compound; and
- an accelerator.

Claim 2: The golf ball according to claim 1, wherein the composition includes greater than about 0.1 part by weight of the peptizer per 100 parts by weight of the unsaturated polymer.

Claim 3: The golf ball according to claim 1, wherein the composition includes greater than about 0.5 part by weight of the peptizer per 100 parts by weight of the unsaturated polymer.

Claim 4: The golf ball according to claim 1, wherein the composition includes greater than about 2.5 parts by weight of the peptizer per 100 parts by weight of the unsaturated polymer.

Claim 5: The golf ball according to claim 1, wherein the peptizer includes a non-metal salt of pentachlorothiophenol.

Claim 6: The golf ball according to claim 1, wherein the composition includes from about 0.1 part to about 10 parts by weight of the accelerator per 100 parts by weight of the unsaturated polymer.

Claim 7: The golf ball according to claim 1, wherein the composition includes from about 0.2 part to about 5 parts by weight of the accelerator per 100 parts by weight of the unsaturated polymer.

**Claim 8:** The golf ball according to claim 1, wherein the composition includes from about 0.5 part to about 1.5 parts by weight of the accelerator per 100 parts by weight of the unsaturated polymer.

**Claim 9:** The golf ball according to claim 1, wherein the accelerator is selected from the group consisting of 2-mercaptopbenzothiazole and a salt of 2-mercaptopbenzothiazole.

**Claim 10:** The golf ball according to claim 1, wherein the composition includes from about 0.05 part to about 5 parts by weight of the cross-linking agent per 100 parts by weight of the unsaturated polymer.

**Claim 11:** The golf ball according to claim 1, wherein the composition includes from about 0.2 part to about 3 parts by weight of the cross-linking agent per 100 parts by weight of the unsaturated polymer.

**Claim 12:** The golf ball according to claim 1, wherein the composition includes from about 0.5 part to about 1.5 parts by weight of the cross-linking agent per 100 parts by weight of the unsaturated polymer.

**Claim 13:** The golf ball according to claim 1, wherein the unsaturated polymer is selected from the group consisting of 1,2-polybutadiene, cis-1,4-polybutadiene, trans-1,4-polybutadiene, cis-polyisoprene, trans-polyisoprene, polychloroprene, polybutylene, styrene-butadiene rubber, block copolymer of styrene and butadiene, block copolymer of styrene and isoprene, nitrile rubber, silicone rubber, polyurethane, and mixtures thereof.

Claim 14: The golf ball according to claim 1, wherein the composition further comprises one or more ingredients selected from the group consisting of UV stabilizers, photo stabilizers, antioxidants, colorants, dispersants, mold releasing agents, processing aids, and fillers.

Claim 15: The golf ball according to claim 14, wherein the one or more ingredients include a filler that adjusts a density of the composition.

Claim 16: The golf ball according to claim 14, wherein the one or more ingredients include a filler selected from the group consisting of zinc oxide, tungsten, and barium sulfate.

Claim 17: The golf ball according to claim 14, wherein the one or more ingredients include a filler and the composition includes from about 10 parts to about 80 parts by weight of the filler per 100 parts by weight of the unsaturated polymer.

Claim 18: The golf ball according to claim 1, wherein the composition further comprises a compound selected from the group consisting of an unsaturated carboxylic acid, a metal salt of the unsaturated carboxylic acid, and mixtures thereof.

Claim 19: The golf ball according to claim 18, wherein the composition includes from about 20 parts to about 60 parts by weight of the compound per 100 parts by weight of the unsaturated polymer.

Claim 20: The golf ball according to claim 1, further comprising:

a core; and

a cover layer over the core;

wherein at least one of the core and the cover layer includes the composition.

Claim 21: The golf ball according to claim 20, wherein the core includes:

an inner core; and  
an outer core encasing the inner core.

Claim 22: The golf ball according to claim 20, wherein the core includes a material in liquid form.

Claim 23: The golf ball according to claim 20, further comprising a layer of rubber thread located between the core and the cover layer.

Claim 24: The golf ball according to claim 1, further comprising:

a core;  
at least one intermediate layer over the core; and  
a cover layer over the outermost intermediate layer;  
wherein at least one of the core, the at least one intermediate layer, and the cover layer includes the composition.

Claim 25: A golf ball including a composition comprising:

an unsaturated polymer;  
a cross-linking agent comprising a peroxide;  
a peptizer including a non-metal salt of an organic sulfur compound; and  
an accelerator;  
wherein the composition includes:  
from about 0.2 part to about 3 parts by weight of the cross-linking agent per 100 parts by weight of the unsaturated polymer,  
greater than about 0.5 part by weight of the peptizer per 100 parts

by weight of the unsaturated polymer, and

from about 0.2 part to about 5 parts by weight of the accelerator

per 100 parts by weight of the unsaturated polymer.

**Claim 26:** The golf ball according to claim 25, wherein the composition includes greater than about 2.5 parts by weight of the peptizer per 100 parts by weight of the unsaturated polymer.

**Claim 27:** The golf ball according to claim 25, wherein the peptizer includes a non-metal salt of pentachlorothiophenol.

**Claim 28:** The golf ball according to claim 25, wherein the accelerator is selected from the group consisting of 2-mercaptopbenzothiazole and a salt of 2-mercaptopbenzothiazole.

**Claim 29:** The golf ball according to claim 25, wherein the unsaturated polymer is selected from the group consisting of 1,2-polybutadiene, cis-1,4-polybutadiene, trans-1,4-polybutadiene, cis-polyisoprene, trans-polyisoprene, polychloroprene, polybutylene, styrene-butadiene rubber, block copolymer of styrene and butadiene, block copolymer of styrene and isoprene, nitrile rubber, silicone rubber, polyurethane, and mixtures thereof.

**Claim 30:** The golf ball according to claim 25, wherein the composition further comprises one or more ingredients selected from the group consisting of UV stabilizers, photo stabilizers, antioxidants, colorants, dispersants, mold releasing agents, processing aids, and fillers.

**Claim 31:** The golf ball according to claim 30, wherein the one or more ingredients include a filler that adjusts a density of the composition.

Claim 32: The golf ball according to claim 30, wherein the one or more ingredients include a filler selected from the group consisting of zinc oxide, tungsten, and barium sulfate.

Claim 33: The golf ball according to claim 30, wherein the one or more ingredients include a filler and the composition includes from about 10 parts to about 80 parts by weight of the filler per 100 parts by weight of the unsaturated polymer.

Claim 34: The golf ball according to claim 25, wherein composition further comprises a compound selected from the group consisting of an unsaturated carboxylic acid, a metal salt of the unsaturated carboxylic acid, and mixtures thereof.

Claim 35: The golf ball according to claim 34, wherein the composition includes from about 20 parts to about 60 parts by weight of the compound per 100 parts by weight of the unsaturated polymer.

Claim 36: The golf ball according to claim 25, further comprising:

a core; and

a cover layer over the core;

wherein at least one of the core or cover layer includes the composition.

Claim 37: The golf ball according to claim 36, wherein the core includes:

an inner core; and

an outer core encasing the inner core.

Claim 38: The golf ball according to claim 36, wherein the core includes a material in liquid form.

Claim 39: The golf ball according to claim 36, further comprising a layer of rubber thread located between the core and the cover layer.

Claim 40: The golf ball according to claim 25, further comprising:

- a core;
- at least one intermediate layer over the core; and
- a cover layer over the outermost intermediate layer;

wherein at least one of the core, the at least one intermediate layer, and the cover layer includes the composition.

Claim 41: A method for manufacturing a golf ball, the method comprising:

providing:

- an unsaturated polymer,
- a cross-linking agent comprising a peroxide,
- a peptizer including a non-metal salt of an organic sulfur

compound, and

an accelerator;

preparing a composition from the unsaturated polymer, the cross-linking agent, the peptizer, and the accelerator; and

forming the composition into the golf ball.

Claim 48: The golf ball according to claim 1, and further comprising a co-cross-linking agent that is a metal salt of an unsaturated carboxylic acid.

Claim 51: The golf ball according to claim 1, wherein the cross-linking agent is selected from the group consisting of diacetyl peroxide; di-tert-butyl peroxide; dibenzoyl peroxide; dicumyl peroxide; 2,5-dimethyl-2,5-di(benzoylperoxy)hexane; 1,4-bis-(t-butylperoxyisopropyl-)benzene, t-butylperoxybenzoate; 2,5-dimethyl-2,5-di-(t-butylperoxy)hexyne- -3; 1,1-bis(t-butylperoxy)-3,3,5 tri-methylcyclohexane; di-(2,4-dichlorobenzoyl)peroxide; and mixtures thereof.

Claim 52: The golf ball according to claim 51, wherein the cross-linking agent includes 2,5-dimethyl-2,5-di-(t-butylperoxy)hexyne- -3 and 1,1-bis(t-butylperoxy)-3,3,5 tri-methylcyclohexane.

Claim 53: The golf ball according to claim 25, and further comprising a co-cross-linking agent that is a metal salt of an unsaturated carboxylic acid.

Claim 56: The golf ball according to claim 25, wherein the cross-linking agent is selected from the group consisting of diacetyl peroxide; di-tert-butyl peroxide; dibenzoyl peroxide; dicumyl peroxide; 2,5-dimethyl-2,5-di(benzoylperoxy)hexane; 1,4-bis-(t-butylperoxyisopropyl-)benzene, t-butylperoxybenzoate; 2,5-dimethyl-2,5-di-(t-butylperoxy)hexyne- -3; 1,1-bis(t-butylperoxy)-3,3,5 tri-methylcyclohexane; di-(2,4-dichlorobenzoyl)peroxide; and mixtures thereof.

Claim 57: The golf ball according to claim 56, wherein the cross-linking agent includes 2,5-dimethyl-2,5-di-(t-butylperoxy)hexyne- -3 and 1,1-bis(t-butylperoxy)-3,3,5 tri-methylcyclohexane.

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**(10) RELATED PROCEEDINGS APPENDIX**

None.

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